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1. (previously amended) In a multi-ply wood structure shear connection including a wood screw fastener and a plurality of wood structural members
- 5 formed with a first bore comprising; said wood screw fastener including:
- a. a shank having a head end;
 - b. a pointed end portion formed on an entering extremity of said shank opposite said head end for insertion through said first bore in said wood structural members;
 - 10 c. said shank having a threaded shank portion having thread convolutions with an outer diameter greater than the diameter of said first bore and beginning at a first point adjacent said pointed end portion and extending axially along the periphery of said shank to a second point and adapted to form and engage threads in said wood structural members;
 - 15 d. said shank having a knurled portion formed with a plurality of knurls having dull edges and having a first point adjacent said second point of said threaded shank portion and extending axially along said shank to a second point and having an outside diameter generally equal to the outer diameter of said thread convolutions in said threaded shank portion and having an inside diameter substantially less than said outside diameter of said knurled portion and equal to or only slightly greater than the diameter of said first bore;
 - 20 e. said knurls are formed with a tapered entering portion forming a smooth transition between the inner diameter of said shank and said outside diameter of said knurled portion;
 - 25 f. said shank having an unthreaded shank portion having a diameter generally equal to said outside diameter of said knurled portion and having a first point adjacent said second point of said knurled portion and extending axially along said shank a distance substantially greater than the length of said knurled portion and terminating at a second point adjacent said head end;
 - 30 g. said knurls having said dull edges bend over buckle and crush without severing, a substantial proportion of the wood fibers of the inner portions of said threads formed in said wood structural members forming a nominal annular zone of bent over buckled and crushed
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- 1 wood fibers, having an outer diameter nominally greater than said
diameter of said unthreaded shank portion and forming a tight fit
between said unthreaded shank portion and said nominal annular zone
of bent over buckled and crushed wood fibers, of said wood
5 structural members;
- h. a head integrally connected to said shank at said head end; and
l. said unthreaded shank portion extending a substantial distance
within said wood structural members.
- 10 2. (previously amended) In a multi-ply wood structure shear connection
including a plurality of wood screw fastener and a plurality of wood
structural members comprising; said screw fastener including,
- a. a shank having a head end;
- 15 b. a pointed end portion formed on an entering extremity of said
shank, opposite said head end, having a plurality of thread
convolutions and a recess providing a cutting edge for forming a first
bore in said wood structural members and having a selected outer
diameter;
- 20 c. said shank having a threaded shank portion having thread
convolutions similar to said thread convolutions on said pointed end
portion with an outer diameter greater than said diameter of said first
bore and beginning at a first point adjacent said pointed end portion
and extending axially along the periphery of said shank to a second
end point and adapted to form and engage threads in said wood
25 structural members;
- d. said shank having a knurled portion formed with a plurality of
knurls having dull edges and having a first point adjacent said second
point of said threaded shank portion and extending axially along said
shank to a second point and having an outside diameter generally
30 equal to the outer diameter of said thread convolutions in said
threaded shank portion and having an inside diameter substantially
less than said outside diameter of said knurled portion and equal to or
only slightly greater than the diameter of said first bore;
- 35 e. said knurls are formed with a tapered entering portion forming a
smooth transition between the inner diameter of said shank and said
outside diameter of said knurled portion;

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- 1 f. said shank having an unthreaded shank portion having a diameter
generally equal to said outside diameter of said knurled portion and
having a first point adjacent said second point of said knurled portion
and extending axially along said shank a distance substantially greater
5 than the length of said knurled portion and terminating at a second
point adjacent said head end;
- g. said knurls having said dull edges bend over, buckle and crush
without severing, a substantial proportion of the wood fibers of the
inner portions of said threads formed in said wood structural members
10 forming a nominal annular zone of bent over, buckled and crushed,
wood fibers having an outer diameter nominally greater than said
diameter of said unthreaded shank portion and forming a tight fit
between said unthreaded shank portion and said nominal annular zone
of bent over, buckled and crushed wood fibers of said wood structural
15 members;
- h. a head integrally connected to said shank at said head end; and
i. said unthreaded shank portion extending a substantial distance
within said wood structural members.
- 20 3. (original) In a multi-ply wood structure including a wood screw fastener
and a plurality of wood structural members as described in claim 1 wherein:
a. said wood structural members are trusses having at least one wood
member for receipt of said screw.
- 25 4. (original) In a multi-ply wood structure including a wood screw fastener
and a plurality of wood structural members as described in claim 2 wherein:
a. said wood structural members are trusses having at least one wood
member for receipt of said screw.
- 30 5. (original) In a multi-ply wood structure including a wood screw fastener
and a plurality of wood structural members as described in claim 1 wherein:
a. said wood structural members are wood beams.

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- 1 6. (original) In a multi-ply wood structure including a wood screw fastener
and a plurality of wood structural members as described in claim 2 wherein:
a. said wood structural members are wood beams.
- 5 7. (original) In a multi-ply wood structure including a wood screw fastener
and a plurality of wood structural members as described in claim 3 wherein:
a. said wood trusses are roof trusses.
8. (original) In a multi-ply wood structure including a wood screw fastener
10 and a plurality of wood structural members as described in claim 4 wherein:
a. said wood trusses are roof trusses.
9. (new) A multi-ply wood structure shear connection comprising:
- 15 a. a plurality of wood structural members, said wood structural
members being trusses each having a plurality of wood chords,
wherein at least one of said wood chords extends parallel and adjacent
to a chord of another of said trusses, and said adjacent chords are
20 formed with a first bore and are joined by a first wood screw fastener
for sistering said wood chords to share loads, said wood screw
fastener including:
- 25 i. a shank having a head end;
ii. a pointed end portion formed on an entering extremity of said
shank opposite said head end for insertion into said first bore in
said wood structural members;
- 30 iii. said shank having a threaded shank portion having thread
convolutions with an outer diameter greater than the diameter
of said first bore and beginning at a first point adjacent said
35 pointed end portion and extending axially along the periphery of

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1 said shank to a second point and adapted to form and ngag
 threads in said wood structural member; and
 iv. a head integrally connected to said shank at said head end.

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10. (new) The multi-ply wood structure shear connection of claim 9
wherein:

10 a. said wood screw fastener is at right angles to said chords.

11. (new) The multi-ply wood structure shear connection of claim 10
wherein:

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a. said head is in direct contact with one of said chords.

12. (new) The multi-ply wood structure shear connection of claim 11
wherein:

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a. said trusses are roof trusses.

25 13. (new) A multi-ply wood structure shear connection comprising:

a. a plurality of wood structural members, said wood structural
members being trusses each having a plurality of wood chords,
wherein at least one of said wood chords extends parallel and adjacent
to a chord of another of said trusses, and said adjacent chords are
joined by a plurality of wood screw fasteners for sistering said wood
chords to share loads, said wood screw fastener including:

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i. a shank having a head end;

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1 ii. a pointed end portion formed on an entering extremity of said
shank, opposite said head end, having a plurality of thread
convolutions and a recess providing a cutting edge for forming a
5 first bore in said wood structural members and having a
selected outer diameter;

10 iii. said shank having a threaded shank portion having thread
convolutions similar to said thread convolutions on said pointed
end portion with an outer diameter greater than said diameter of
said first bore and beginning at a first point adjacent said
15 pointed end portion and extending axially along the periphery of
said shank to a second end point and adapted to form and
engage threads in said wood structural members; and
iv. a head integrally connected to said shank at said head end.

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14. (new) The multi-ply wood structure shear connection of claim 14
wherein:

25 a. said wood screw fasteners are at right angles to said chords.

15. (new) The multi-ply wood structure shear connection of claim 15

30 wherein:

a. said head is in direct contact with one of said chords

16. (new) The multi-ply wood structure shear connection of claim 16

35 wherein:

EV 323 267 597..

Docket No. SST/1032
Serial No. 09/692,674

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1 a. said truss s ar roof trusses.

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